Unintentional Injury in the Rural Setting – the Development of an Instrument to Determine the Attitudes and Beliefs of Rural Community Members Towards Unintentional Injury

By

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Unintentional Injury in the Rural Setting

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Abstract

Rural Canada is home to at least 19 percent of Canadians. However, compared to people who live in urban areas, rural Canadians experience lower life expectancy and higher mortality rates and report less healthy behaviours. Unintentional injury is a particular problem. Health promotion initiatives in rural communities should be based on an understanding of the attitudes and beliefs of rural community members towards unintentional injury. The purpose of this study was to develop an instrument to measure these attitudes and beliefs.

The instrument was validated for use with this population by experts in various fields and pilot tested with a sample of the intended respondents. A survey is now available for use with the rural population on a larger scale to assist in the design of a rural specific health promotion initiative that reflects the attitudes of the people it is intended to support.
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Chapter 1

Context of the Problem

Rural populations account for a much higher percentage of trauma patients than urban areas due in part to the environmental and social differences between these two types of communities. Speeding and the use of alcohol while driving, for example, have been shown to be much higher in rural populations (Peek-Asa et al., 2004). Rural trauma victims are more likely to die on scene due to longer discovery and transport times and rural fatality rates are twice as high as those in urban areas after a variety of injuries including motor vehicle collisions, occupational trauma, drowning and unintentional firearm injuries (Peek-Asa et al., 2004).

Economically speaking, Canadian trauma patients use two million hospital beds each year and cost the Canadian health care system over fourteen billion dollars annually; this represents eleven percent of the total cost of health care. These figures pale in comparison to the lasting effect trauma has on families and communities each time a promising life is senselessly lost.

While advances in trauma care have led to decreased mortality, further decreases can be realized with injury prevention. Most research concludes that there is an unaddressed need for an action plan to change the rates of trauma we are seeing in rural areas. Currently, all health promotion strategies that focus solely on unintentional injury and its consequences originate from Level 1 trauma centers and use the school system as the primary means of communicating their message (e.g., CHAT, IMPACT). Most trauma centers are well outside the reach of rural schools, leaving a large population underserved as there has yet to be a rural specific trauma prevention program developed. Given that much of the problem lies in the geography and system level funding inadequacies associated with rural areas, prevention is a logical and economical route to take to try and improve the high rates of morbidity and mortality occurring in rural
communities. With the end goal being to design an effective health promotion strategy, I first must know what the attitudes about injury are in this specific population. This will provide both further insight into the problem and a pivotal piece of information required to address knowledge gaps and prepare an effective health promotion strategy.

**Research Question**

What are the attitudes and beliefs of members of rural communities towards unintentional injury?

**Definition of Terms**

*Continuum of Care* – the range of services required by chronically ill, injured, impaired, or elderly people. Services include, among others, preventive measures, acute medical treatments, rehabilitative and supportive care, and social services (Farlex, 2015)

*Cues to Action* – used more in the development of prevention strategies as a reminder that people need to be given the tools and resources needed to make a change (e.g., nicotine patches, gum, information)

*Definitive Care* – completed therapy; the end point at which all the treatment required at the time has occurred (Farlex, 2015)

*Health Promotion* – a field that aims to inform the public about health risks and methods to prevent or reduce these risks; the programs are often targeted at specific populations. Where the risk cannot be eliminated, health promotion programs may focus on improving or maintaining the affected person's quality of life (Farlex, 2015)

*Level 1 Trauma Center* – these hospitals are a comprehensive regional resource that is a tertiary care facility central to the trauma system. They are capable of providing total care for every aspect of injury – from prevention through rehabilitation. Key elements of a Level 1 center include in-house or timely availability of specialists from orthopedics to neurosurgery to
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anesthesiology; providing leadership in prevention and public education; providing continuing education to trauma team members; being an organized teaching and research center. These centers are considered the gold standard for trauma patients and are referred to as ‘definitive care’ (American Association of Trauma, 2012)

*Perceived Benefits and Barriers* – the perceived positive and negative aspects of participating in health promoting behaviour (e.g., cost savings associated with no longer buying cigarettes would be a benefit and the unpleasant side effects associated with quitting would be a barrier)]

*Perceived Seriousness* – the beliefs or attitudes about the seriousness of getting a disease or leaving a disease untreated; includes both medical (pain, death, disability) and social (effects on work, family and social lives) consequences (e.g., a person should understand that getting lung cancer could result in a decrease in quality of life due to treatment, stress on relationships, financial hardship and death)

*Perceived Susceptibility* – refers to beliefs or attitudes about the likelihood of getting a disease or condition (e.g., a person must believe there is a possibility of getting lung cancer before they will be interested in quitting smoking)

*Self-Efficacy* – the belief or attitude by the individual that they are capable of making the change. Also used in the development of prevention strategies, especially with youth and other marginalized populations

*Unintentional Injury* – Injury is defined as any damage done to the body. It is then classified based on severity and the likelihood of lasting effects. ‘Unintentional’ excludes injuries that are the result of homicide or known suicide.

**Significance of this Research**

The purpose of this study is to create and test an instrument to measure the attitudes and beliefs of rural community members towards unintentional injury as it relates to them and their
communities. There is significant evidence that the morbidity and mortality rates due to unintentional injury are much higher in rural areas than in urban areas (Gomez et al., 2009; Haas et al., 2010; Hameed et al., 2010; Peek-Asa et al., 2004; Williams & Kulig, 2012); there is also evidence that, when delivered appropriately, health promotion interventions can be effective at encouraging positive behaviour change, in this case, through education aiming to reduce preventable injuries (WHO, 1998). Delivered on a larger scale, this questionnaire has the potential to guide the development, implementation and evaluation of a health promotion intervention that targets rural communities. It will also add to our existing knowledge of rural communities and can assist in policy changes or development that would see a positive change in the health and wellness of rural communities across Canada.
Chapter 2

Review of the Literature

The Cost of Unintentional Injury in Canada

Unintentional injury in Canada is responsible for 15,866 deaths, almost 3.5 million emergency room visits and 231,596 hospitalizations. The mechanism by which the injury is sustained varies but does not include homicide and suicide, which are classified as intentional injury. Unintentional injury costs our health care system 15.9 billion dollars annually and leaves more than 60,000 Canadians either partially or permanently disabled. Every hour, 427 people in our country suffer an unintentional injury as a result of a fall, a motor vehicle crash, fire, poisoning, drowning, or other activities. Unintentional injury accounts for 82% of injury costs while intentional and ‘undetermined’ account for only 18% (Parachute, 2015). The total economic cost of injury is more than 26.8 billion dollars a year and if the trend of increasing deaths from injury continues, injuries will cost Canadians 75 billion dollars a year by 2035 – an increase of 180%. If this continues, injury is projected to claim the lives of over ten thousand more people, also by 2035 – an increase of 60%. The majority of unintentional injuries, however, are both predictable and preventable. An effective way to try and manage the healthcare expenditures and catastrophic loss of life related to unintentional injury is to prevent the injuries from occurring in the first place, saving lives as well as dollars (Parachute, 2015).

Defining “Rural”

There are several definitions that can be used for ‘rural’ and the decision on which one to use is generally based on the research question or the purpose of the analysis. Census rural refers to the “population living outside settlements of one thousand or more inhabitants and with a population density of four hundred or more inhabitants per square kilometer” (Williams & Kulig, 2012, p. 9); rural and small town (RST) refers to individuals in communities that are...
outside the commuting zones of urban centers (10,000 people or more). Strong Metropolitan Influenced Zone (MIZ) areas have 30 percent or more of residents that commute to an urban center, Moderate MIZ areas have five to 29 percent of residents that commute to an urban center and Weak MIZ areas have no residents that commute. Predominantly rural regions are areas having more than fifty percent of residents living in a rural community that has a population density of fewer than 150 persons per square kilometer. This category also refers to rural northern areas such as the Yukon, Northwest Territories and Nunavut. Depending on which definition of rural is used, between 19 and 30 percent of Canadians are considered to be living in rural areas. Most health researchers choose to use the RST definition for their research because it encompasses whole communities. Using this definition, approximately 19 percent of the Canadian population is considered rural (Williams & Kulig, 2012).

**Health in Rural Communities**

The idea that ‘place’ matters to health is an important one. ‘Place’ is used to describe an array of phenomena including geography, population size, ecology and climatology, ethnic composition, culture and lifestyle and socio-economic characteristics and how they affect the health of residents. It is considered to be an important variable in population health studies. The relationship between place and health is garnering more interest as a broader issue and is the basis for an increasing amount of research. Health geographers are at the forefront of this research in which health is defined broadly and encompasses disease, quality of life and well-being. The aim of this work is to understand how locality impacts health and the perception and experience of healthcare as it relates to ‘place’. Health care services, and the inequity experienced by rural communities, have a significant impact on the health status of rural residents. The Canadian Health Commission asserts that geography should be considered a determinant of health because of the disparities in access between urban and rural communities (Williams & Kulig, 2012; Pong et al., 2012).
More than seven million Canadians live more than one hour from a Level I trauma center. The greatest difference in rates of death from injury is between urban and remote locations – a 125.8 percent increase in remote areas. A report entitled *How Healthy Are Rural Canadians? An Assessment of Their Health Status and Health Determinants* by the Canadian Institute for Health Information (2006) found that as one moves from an urban area through strong, moderate and weak Metropolitan Influenced Zones (MIZ) and on to remote areas, the rates of suicide, injury and poisoning increase at a steady rate. Deaths from motor vehicle accidents and suicides are remarkably higher in remote areas compared to urban, with a 170 percent and 250 percent increase noted in remote areas respectively in the 5 to 19 year old age group. A similar pattern is noted in all age groups up to 65 but with progressively shallower gradients. These data present an interesting paradox with suicides, given the information we have that rural residents self-report better mental health and lower levels of stress and the fact that the prevalence of depression is indeed lower in rural areas. The CIHI study also controlled for ethnic background, including Aboriginal ancestry and found that the difference in suicide mortality between rural and urban residents remained significant. This tells us that, despite a larger Aboriginal population in rural areas and the knowledge that this population is at higher risk of suicide, they do not account for the disparity in deaths by suicide between rural and urban communities. One may wonder if the higher mortality rates in rural and remote areas are related to systems issues regarding access to care, resulting in more deaths by suicide, and not the higher rate of suicidal persons it suggests at first glance. Data are similar between males and females but males see a much steeper gradient in all age groups. For both genders, in those under 45, injuries and suicide are a substantial cause for the gap in health outcomes between rural and urban Canadians (Hameed et al., 2010; Ostry, 2012).

Rural areas have fewer members of minority groups, a higher proportion of both First Nations individuals and children and elderly persons who are considered dependents. When compared to urban areas, rural residents experience a lower life expectancy, higher mortality rates and exhibit less healthy behaviours overall. In the rural population under 45 years old the
higher mortality rates are due mainly to injury and suicide (Williams & Kulig, 2012; DesMeules et al., 2012).

Compared to Canadians living in urban areas, rural Canadians experience a greater number of population health risks including lower education levels and higher unemployment rates which results in lower socio-economic status. These all contribute to a poorer health status for rural residents. Rural residents also self-report lower health status, functional health and health promoting behaviours than those in urban areas. Overall, rural residents are less healthy than their urban counterparts. While the initial assumption based on rural access to health care is that geographical limitations are to blame, the disparities may be more complex than that (DesMeules et al., 2012; Williams & Kulig, 2012).

The CIHI study (2006) also found that despite rural residents self-reporting a stronger sense of community and less stress than their urban counterparts, health status worsened with increasing rurality. After controlling for socio-economic status, mortality for all causes in the under 65 age group is higher in rural regions. As well, death due to cervical cancer, respiratory disease, injury, poisoning, motor vehicle collisions and suicide are higher in rural areas compared to urban. In the 5 to 19 year old age group, mortality from all causes are 160 percent higher in remote areas than for the same age group located in urban Canada. Because we know that there is a link between lower socioeconomic status, lower education levels and higher unemployment rates and an increase in mortality rates, it is often assumed that because rural areas have larger populations of people who fall in to these categories, this is what accounts for the higher mortality rates in rural areas. This report showed through multivariate analyses and after controlling and adjusting for socioeconomic status and various other demographics, that “place of residence still had an independent and statistically significant effect on all-cause mortality as well as mortality due to MVAs [motor vehicle accidents] and suicides…” (DesMeules et al., 2012, p. 33). In other words, no matter your age, gender or socio-economic status, simply living in a rural area increases one’s risk of death when compared to urban living (DesMeules et al., 2012; Ostry, 2012).
Canada’s Health Act and Access to Healthcare

In 1984 the Canada Health Act was enacted and represents the five principles of health care in Canada; accessibility, universality, portability, comprehensiveness, and public administration. This legislation sought to ensure equitable access to health care for all and began to conceptualize health in terms of social justice – this guaranteed all Canadians access to necessary services, regardless of geography. With regard to funding this health care system, federal and provincial powers were divided in such a way that the federal government would acquire the resources to finance the system, but the provincial government would take responsibility for the actual delivery of services and health care products. The federal government makes annual payments to its provincial counterparts to finance the delivery of services. There are no requirements attached to this payment which results in each Canadian province and territory having a unique health care system. In 2006, the estimated cost of health care in Canada was 148 billion dollars with the three largest categories of spending being hospitals (30 percent), pharmaceuticals (17 percent), and physician services (13 percent). However, as the federal government struggles with a less prosperous economy, payments to the provinces, leaving the provincial and territorial jurisdictions less inclined to honour the Health Act (Pong, DesMeules, Read Guernsey, Manuel, Kazanjian, & Wang, 2012; Williams & Kulig, 2012).

As a way to further delineate the delivery of services in Ontario, fourteen Local Health Integration Networks, or LHINs were developed, each covering specific geographical areas – two of which combine to cover a substantially rural area. Each LHIN is responsible for the planning, funding and coordinating of health services including hospitals, community support services, mental health and addiction services and long term care services. While the LHINs are specific to Ontario, each province and territory has a way of delineating responsibility for services throughout the province – this inevitably leads to significant differences in access to
services both between the provinces and territories, and between the urban and rural communities within them. The fundamental objective of the Health Act is to facilitate reasonable access to health care without undue financial hardship or other barriers for the patient. In rural areas, however, universal access becomes meaningless when the facilities and services required are difficult or impossible to obtain locally. The costs incurred by rural residents in terms of time, travel, and lost wages and the increased emotional distress that this causes, become prohibitive due to the greater distances they are required to travel in order to access specialists, and appropriate treatments and facilities. In 2002, two comprehensive federal policy documents, the Kirby Report and the Romanow Report further emphasized the importance of timely access to health care. Both of these policies also highlighted concerns regarding adequacy of and accessibility to health care for rural residents (Pong et al., 2012; Williams & Kulig, 2012).

Patterns of Behaviour

Alongside the rural/urban differences in access to health care, there are also differences in the utilization of the services that are available in rural areas. The CIHI report indicated that rural residents tend to perceive health as simply the absence of disease and therefore may not seek medical attention until they are seriously ill (DesMeules et al., 2012; Williams & Kulig, 2012). For instance, rural men are more likely to report not having seen a physician in the previous twelve months than their urban counterparts. There are considerable differences in how rural residents utilize physician services, likely due to the fact that rural family physicians are more likely to work in local emergency departments, have privileges at local hospitals and admit patients, deliver care to hospitalized patients and deliver babies. This makes rural Canadians much more reliant on family physicians and less likely to use specialists, community-based care and other practitioners; in fact 15 percent of the population of Ontario lives more than 100 kilometers from any physician specialist. They are also more likely to visit an emergency
department and more likely to be hospitalized. The greater use of emergency departments by rural residents could be attributed to the lack of options in rural areas – they do not have the same access to walk-in clinics, community health centers and urgent care clinics as urban residents. The higher use of emergency departments can also skew data collected from rural areas and has implications for prevention initiatives and health care planning. For instance, community-based chronic disease management programs commonly gauge their effectiveness on the assumption that if chronic diseases (diabetes, congestive heart failure, chronic obstructive pulmonary disease (COPD), etc.) are not well managed in the community then these patients are more likely to visit an emergency department. If rural residents are more likely to visit an emergency department as a baseline, then this becomes an ineffective way to judge the efficacy of those programs. This further emphasizes the point that what works in bigger cities may not work in small communities and stresses the need for rural-specific initiatives and data collection methods (Gomez et al., 2009; Williams & Kulig, 2012; Pong et al., 2012).

The evidence suggests that the disproportionate number of trauma related deaths can be attributed to the social and environmental differences between rural and urban areas. The use of seat belts and other protective devices like helmets and child safety seats is much lower in rural communities. As well, the combination of narrow two lane roads with no crash reduction features (divided traffic streams, skid reducing surfaces etc.), fewer traffic control devices and higher speeds due to uninterrupted segments of road have been shown to cause crashes which result in more severe injury. Head on collisions, for example, account for seventeen percent of fatal crashes in rural areas and only nine percent in urban areas (Peek-Asa et al., 2004).

**Access to Treatment for Injured Patients**

Discovery and transport times are much longer in rural areas. The mean provincial transport time from injury to a trauma center is sixty-two minutes. If transport to a non-designated trauma center occurs first, the average time to definitive care is six hours. The
geographic distance and limitations of transportation resources often preclude direct transport to a trauma center. Patients who were taken to a non-trauma center initially spent on average two and a half to four hours awaiting transfer and 21 percent of patients who died before transfer, died within one hour. Furthermore, care at a trauma center is associated with a 25 percent reduction in injury related mortality (Gomez et al., 2009; Haas et al., 2010). The likelihood of dying on scene is much higher in rural areas with more than 75 percent of field deaths occurring in rural areas located more than one hour from the nearest trauma center. Almost eighty percent of trauma related deaths occur at the scene in rural areas; urban areas see only half that. The odds of dying in an emergency department are three times as high when compared to deaths further along in the continuum of care if the initial injury occurs far from definitive care (Gomez et al., 2009).

The limited resources in rural hospitals combined with the infrequency with which the hospitals receive severely injured patients can further play a role in the higher mortality rates noted in rural communities. In a study by Gomez et al. (2009), 62 percent of the deaths reviewed during the study were of people between 15 and 45 and almost two thirds were male. The same study states that limited access to care is associated with a disproportionately higher number of deaths in younger age groups. The highest increase in all-cause mortality in rural areas was found to be in the under 44 year age group, with the risk of death being 11 to 33 percent higher than in urban areas. The findings also indicate that the causes of these deaths are most often injury and suicide. It is well documented that motor vehicle collisions (MVC’s) are a bigger problem in rural areas than in urban yet the inconsistencies cannot be explained by the socioeconomic differences. This requires a closer look at the systemic, geographical and environmental differences in rural areas when compared to urban to better understand links between risk taking behaviours, seasonal variations in injury rates and geographical ‘hotspots’ of injury.
Health Promotion

It’s not all bad news for rural residents however. Rural residents report a significantly higher ‘sense of belonging’ compared to urban residents; most choose to live in a rural community and emphasize the connection with the physical geography and its positive impact on their lives. Social capital is referred to as the link between an individual and their social environment and includes concepts such as social networks, civic participation, and community engagement. Rural residents seem to outdo their urban counterparts in terms of social capital with a strong sense of belonging to the community being reported. Mental health status is better in rural areas, most likely due to the availability and level of social support in these communities. Efforts to develop these communities correlate with improved health status and a focus on capacity building and the social determinants of health; this is necessary for rural areas if they are to encourage the development and implementation of appropriate health services (DesMeules et al., 2012; Williams & Kulig, 2012).

The Ottawa Charter for Health Promotion is considered the gold standard in health promotion action literature and defines health promotion as “the process of enabling people to increase control over, and to improve, their health” (World Health Organization, 1986). The Charter identifies several prerequisites for health including peace, shelter, education, food, income, stable ecosystem, sustainable resources, social justice, and equity. Additionally there are health determinants which are recognized thanks to additional knowledge from population health research, a few of which are adequate incomes, healthy lifestyles, social relationships, freedom from violence or exposure to infectious disease, and protection from environmental hazards. Health promotion draws on an explicit set of values including that individuals are treated with dignity and respect; that individual liberties are respected with priority given to the common good when conflicts arise; that priority is given to those whose living conditions place them at a higher risk of health disparities and that the health of the current generation is not obtained at the cost of future generations. These values create the basis for seven strategic
principles that guide health promotion initiatives. These principles include the intertwining of individual, social and environmental factors in influencing health; a holistic approach with long term perspective; a sectorial approach which draws on knowledge from a variety of sources; and interventions which emphasize public accountability (Canadian Public Health Association, 1996).

Three of the strategies outlined in the Ottawa Charter apply directly to rural health and focus on key issues in rural areas: advocating for healthy public policy, strengthening communities and reforming health systems. Policies affect determinants of health by shaping how money, power and resources flow through communities and more emphasis needs to be placed on giving a voice to society’s least powerful in order to create policies that create healthy living conditions and lifestyles for whole populations (Canadian Public Health Association, 1996). Evidence suggests that health deteriorates as the sharing and caring associated with health promoting communities decreases. One of the goals of health promotion is to strengthen communities through the creation of healthy living conditions and lifestyles; efforts should be focused on the communities that do not possess the resources necessary to ensure their own health. Finally, health system reform aims both to shift the emphasis from treating disease to improving health, and to increase the efficiency and effectiveness of the health care system itself. This requires improved access to services, increased support for community participation and development and family-based care, and stronger health protection programs (Canadian Public Health Association, 1996).

Literacy is considered an important determinant of health in Canada and there is evidence of both direct and indirect effects of literacy on the health of Canadians. In 2004, the Institute of Medicine adopted the definition of health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Gillis & Sears, 2012, p. 261) and in keeping with their focus on capacity building and empowerment, the World Health Organization (WHO) considers health literacy as “the cognitive and social skills which determine the motivation and ability of
individuals to gain access to, understand and use information in ways which promote and maintain good health” (Gillis & Sears, 2012, p. 261). The WHO considers health literacy to be crucial to personal empowerment.

The primary focus of prevention programs is to address the root of the problem. Substance abuse and teenage pregnancy are common examples. In the case of unintentional injury, these programs address issues that lead to the increase in injury mortality. Research and evaluation literature have consistently shown that when prepared and delivered properly, prevention programs are effective and valuable in helping to promote positive behavior change and decision making (Nation et. al., 2003). Prevention of unintentional injuries is a specific type of health promotion that targets injuries sustained by, in this case, members of rural communities. The Charter focuses on health promotion as an actionable process in which advocating, enabling and mediating should be used by many different sectors, not just the health related fields, to help create more than a healthy lifestyle but a state of complete physical, mental and social well-being. Health promotion initiatives aim to promote political, economic, environmental, social and behavioural changes that favour good health and overall well-being. Communities are taught to manage their environments by being provided with information, taught life skills and given opportunities for making healthy choices, with the intention being to reduce gaps in health status. Health promotion strategies should be adapted to the communities that are being targeted and their specific needs, all the while taking into consideration the local cultural and economic context (World Health Organization, 1986). A well-established benefit to a successful health promotion strategy is the resource savings that occur from the resulting decrease in morbidity and mortality and is something that should be focused on, despite the understandable delay in seeing those results (Cohen, 1994). Health promotion at its core, however, is guided by the desire to empower communities to take responsibility for their health and develop the existing human and material resources within the community (World Health Organization, 1986). Currently, all trauma prevention programs originate from Level 1 trauma centers and use the school system as the primary means of
communicating their message (e.g., CHAT, IMPACT, Party in The Right Spirit). These programs generally follow the same outline – they begin with an assembly for the majority of those at the school and follow up in the next few days or weeks with a smaller group (usually either school leaders, at risk members of the school’s population or sometimes a combination of the two) that tours various areas of the hospital, witnesses a mock trauma and hears from survivors of injury. Most trauma centers are well outside the reach of rural schools, leaving a large population underserved as there has yet to be a rural specific trauma prevention program developed.

**The Health Belief Model**

The Health Belief Model (HBM) will be used as a conceptual framework to guide this study. The HBM was developed by social psychologists in the 1950’s as a way to explain the ongoing failure of disease prevention initiatives to engage people to participate in health promoting behaviour (Champion, 2008). From there it has expanded to encompass responses, behaviours and attitudes towards symptoms and diagnoses. It is also currently used as a framework to develop health promotion and prevention strategies that are better able to engage people and encourage health promoting behaviour.

The HBM is made up of several concepts that combine to predict why people will take action to prevent, screen for or control conditions; susceptibility and seriousness combine to make up ‘perceived threat’, followed by the benefits and barriers of health promoting behaviour (quitting smoking, wearing a seatbelt etc.), and finally the cues to action and self-efficacy required for success.

With the overarching goal being to develop effective health promotion strategies that target rural populations and the factors that increase their likelihood of dying from unintentional injury, there first must be an understanding of the attitudes and beliefs of members of the rural community and how they view what research shows is a serious problem. By looking at how a
sample of the rural population perceives the seriousness of trauma and their perceived susceptibility to it within the context of rural life, researchers and health promoters can begin to understand what health promotion strategies might be effective with this population.

The Health Belief Model

Figure 1. The Health Belief Model (adapted from the United States Public Health Service).

By using the HBM as a research guide, the research findings will be able to be positioned into the perceived threat element of the model. This will allow the development of appropriate materials supporting cues to action and self-efficacy as part of an effective health promotion strategy.

Addressing Health Disparities

The CIHI report suggested some avenues for addressing rural/urban health disparities, including economic development programs, increased occupational health and safety measures,
improved road conditions and road safety awareness programs and rural-focused health promotion and disease prevention efforts.

There is evidence that who is at risk, when injuries happen and under what conditions is predictable. Literature also shows that investing in effective preventative programming does make a difference and we are increasingly aware of what works and what does not (Nation et. al., 2003). This, in combination with the results of the CIHI report, builds a case for increasing funding for rural areas to develop rural-specific initiatives that target prevention and treatment and that these initiatives should largely target children, youth and young adults. Considering the costs of inaction against the current reality of Canada’s aging population, an over-burdened health care system and constant budget cuts across the board, we would be remiss to continue ignoring the problem.

While some determinants of health are easier to modify than others and we can learn from existing best practices, rural-specific policies and initiatives that are relevant to rural settings are needed to achieve the breakthroughs required to ensure that rural residents are able to obtain a health status similar to that of their urban counterparts. Policy responses to address some of the systemic differences, including the availability of rapid transport services, both air and ground, as well as the lack of definitive care in rural areas would be likely to reduce mortality rates from injury and suicide (Ostry, 2012). Creating policies with a rural-specific focus that address the unique aspects of rural communities, with genuine input and support of rural residents as part of a collaborative process to address the challenges of access to and delivery of health care services is paramount (Williams & Kulig, 2012; DesMeules et al., 2012; Ostry, 2012; Parachute, 2015).

Rural Canada is dynamic, unique, and beautiful and health care services need to address the differences found in rural areas across the health care spectrum, from health promotion through treatment, chronic care and end of life care. The future is uncertain for rural residents
and their health and the key to change is developing and implementing collaborative, unique and rural-focused initiatives for those living in rural communities (Williams & Kulig, 2012).
Chapter 3

Methods and Results

There were two phases to this study: The first was an interview that was conducted with the intention of directing the second phase, the development of a questionnaire. These will be referred to as Phase 1 and Phase 2 respectively. The purpose of Phase 1 was to gather information from rural community members about the language they use to describe and discuss trauma and unintentional injury. This was gathered through structured interviews following the viewing of a video depicting a car crash. The information gathered was then used, in combination with recent literature, previously validated surveys and survey frameworks, to develop a survey that measures knowledge, practices and beliefs of rural community members towards trauma and unintentional injury. The anticipated long-term goal of this study is to use the survey to gather data to inform the development of a health promotion and injury prevention initiative that targets rural populations. This chapter outlines the interview sampling and recruitment methods used, the interview design and data analysis, and the methods of survey design.

Sampling and Recruitment

The Rural and Northern Health Framework defines ‘rural’ as a community of less than 30,000 people that is more than 30 minutes driving distance from a community of more than 30,000 (Ministry of Health and Long-Term Care, 2008). Similarly, the criteria used to define ‘rural’ in the literature on the increased mortality associated with traumatic injury in rural areas define ‘rural’ as being more than one hour’s driving distance from a Level 1 trauma center, and the Rural and Small Town (RST) definition referenced in Health and Rural Canada (Williams &
Kulig, 2012) refers to individuals in communities that are outside the commuting zones of urban centers as ‘rural’. These definitions and criteria provide a comprehensive idea of a typical rural community. The six people who volunteered to participate in the interview for this study fit all the above outlined criteria defining ‘rural’ community members.

**Recruitment Strategy**

Participants were recruited through the researcher’s personal and professional networks, so comprised a convenience sample. Interested individuals were asked to contact the interviewer either through social media or email and were then sent a participant information letter (Appendix A) to provide them more detailed information about the study. Willingness to participate in a recorded interview was then confirmed via a consent form (Appendix B) sent ahead of time. Participants were informed that their involvement was voluntary and that they could stop the video or interview at any time. Confidentiality was explained and participants were given the opportunity to ask any questions they had. A time and place for the interview was then set up. Generalizability of responses was not sought as these interviews took place with the sole intention of using information provided to guide the language for the survey design. Therefore, a sample size of six volunteers was deemed appropriate and no further recruitment was pursued. A ten dollar ($10) gift card to a coffee shop was given as an incentive for participating in the study.

**Inclusion/Exclusion Criteria**

To be included as an interviewee for this study, participants had to live in a town with a population of less than 30,000. Only health care workers were excluded from the interview portion of this study with the rationale being that they would have a pre-existing, professional
knowledge of trauma and injury and thus the language they would use to describe it would differ from that of a layperson.

Participant Demographics

Three women and three men, with levels of education ranging from high school (1 participant) to professional certificate (1 participant) and college (4 participants), participated. All lived in Ontario towns with a population of less than 30,000 and did not work in health care or a health related field. The ages of participants range from 21 to 33 years old and their occupations include auto technician, furniture finisher welder and stay-at-home mother. All participants lived and worked in an English speaking environment, therefore all recruitment and interviews took place in English and there was no need for translation of recruitment materials.

Interviews

The participants were shown a short video (approximately 1 minute in length) of a reconstruction of a motor vehicle crash (see Appendix C for stills from the video). A computer animation created by Rise Studios, an animation company (http://www.risefx.com/) was used. The animation shows two cars colliding, but does not depict any people so as to not show, or even allude to, personal injury. This type of video was chosen specifically to minimize the risk of interview participants being upset by seeing injured people or by identifying with the occupants of the cars. The use of this minimal risk video was supported by the Research Ethics Board at the University of Toronto. Participants were asked ahead of the viewing to watch closely and anticipate being asked to describe what they saw in the video (see Appendix D for interview questions) as if they were speaking to police or a reporter from the perspective of a witness to the crash; the interview was conducted immediately after viewing the video. The rationale behind specifying police or a reporter, versus a friend or family member, was to encourage the
participants to pay close attention to the video and describe what they saw in a serious yet relaxed manner; it was decided that asking participants to describe the video as they would to a friend or family member would result in the use of slang terms. The goal was to obtain the language that rural community members would use naturally while encouraging a level of professionalism that would translate to a survey. The interviews took approximately 15 minutes and were conducted at a location of the participant’s choice within their community. Interviews were audio recorded with the knowledge and consent of the participants (see Appendix B for the consent form). They were conducted one-on-one to minimize distractions and to encourage candor. Follow-up questions were used to obtain more detail and to encourage more dialogue from those participants who did not provide a lengthy and/or detailed description initially (Appendix D). Professional terminology surrounding trauma and injury was avoided while obtaining consent and describing the study and its purpose, and throughout conducting the interview, to avoid biasing the language used by participants. The interviewer also asked only the questions outlined in Appendix D in the same order each time in an attempt to limit interviewer bias.

**Ethical Considerations**

The risk to participants was low as they were all adults (aged 18 and older) who volunteered to participate in the interviews after seeing the request for participants on social media. Despite the low risk, ethical considerations were taken into account to ensure that participants did not feel overwhelmed or disturbed by the interview process. The video was chosen because it does not depict any people or injuries and would therefore reasonably reduce the risk of participants being upset by seeing injured people or by identifying with the occupants of the cars. The level of visual violence in the video is comparable to that which would be
shown in a PG13 movie or video game. To ensure all participants understood what they would be watching, prior to the start of the interview, the nature of the video and the ability of participants to stop the interview process at any time, including during the video, was reiterated. The interview was recorded with the participants' permission as per the consent document. Demographic data collected includes, gender, level of education and current employment and was done so to check that a range of perspectives was represented. Participants were provided with information on resources they could contact in their community if they felt they would like to discuss any feelings of unease around the topics of trauma or injury. Ethics approval was required, and granted, by the Research Ethics Board at the University of Toronto prior to beginning the research.

**Survey Design**

Phase 2 was the development of a survey to determine the attitudes and beliefs of rural community members towards trauma and unintentional injury.

**Theoretical Foundations**

The survey design for this phase is based on two previously validated and reliability tested frameworks. Both the Health Belief Model (HBM) questionnaire and the Knowledge, Practices and Beliefs questionnaire have been previously studied and are used in a variety of fields of study. The HBM was originally developed as a conceptual framework in the 1950’s by social psychologists to explain the extensive failure of people to participate in prevention and detection programs. Initially this framework was used to study an individual’s perception of the benefits of early detection – it was determined that if an individual felt that they were susceptible to a condition that they deemed serious, they were more likely to take steps to prevent or detect the condition (Champion & Skinner, 2008).
Several constructs came out of this research - perceived susceptibility, perceived seriousness, perceived benefits and barriers, cues to action and self-efficacy (Champion, 1993). Champion took this framework and developed, and then further refined, a screening tool to determine a woman’s attitudes and beliefs towards mammography and breast self-examination as well as the perceived benefits of and barriers towards those same breast cancer prevention and detection methods. This instrument was shown to exhibit predictive validity, internal consistency and test-retest reliability. This instrument then was adapted for questionnaires that looked at colon cancer screening behaviour and risky sexual behaviours (Champion & Skinner, 2008; Champion, 1993).

The Knowledge, Practices and Beliefs (KAP) questionnaire is designed to study a specific population and to collect information on the knowledge, practices and beliefs of that population around a specific topic. KAP surveys can reveal knowledge gaps, cultural beliefs or behavioural patterns by looking at health system responses and a population’s actual response to the particular issue being studied, in this case unintentional injury (Goutille, 2009). They also look at communication processes and can determine which sources the study population is most likely to get information from and which they trust most, thus providing information for a health promotion intervention or initiative that uses these communication methods and increasing the likelihood of its success (WHO, 2008).

The purpose of a KAP study is exploration of a topic on which little is known, testing of an intervention or collection of baseline data. While a combination of these three is possible, it has the potential to make the survey too long and laborious for respondents – for this reason, literature suggests that researchers determine their highest priority and make compromises from there (Goutille, 2009; WHO, 2008)
The efficacy of a survey is increased if a framework is used to guide the development of the survey in order to ensure that the information is relevant and can be used to develop an adequate health promotion strategy (WHO, 2008). The Health Belief Model and the KAP model of survey design align to create a comprehensive guide for the design of a new survey that focuses on unintentional injury in the rural population. Based on the foundational ideas of the HBM and the KAP survey the best approach for this study’s survey was determined to be a focus on determining the perceived susceptibility and severity of unintentional injury in the rural population as well as access to prevention resources and barriers to preventative behaviours.

At this time there are no health promotion interventions for unintentional injury prevention designed specifically for rural populations. This paucity of information available determined the focus of this study’s survey design: gathering baseline information on the topic to be used to guide future health promotion and injury prevention interventions with this specific target population.

**Survey Design**

For the first draft of the survey (Appendix E), questions from both the HBM and KAP surveys were selected based on the relevance as it related to the topic area. The questions were adapted to reflect unintentional injury while maintaining similar wording as that of the original questionnaires. The demographic questions were based on those asked in both questionnaires as well as in current literature on the topic to allow for comparison of data.

In order to assess the efficacy of the first draft of the survey it was reviewed by an Associate professor at the Ontario Institute for Studies in Education (OISE), in Toronto and a Health Promotion Specialist. A physician whose research interest is rural trauma and one of the editors of Health in Rural Canada (2012) were contacted to request their feedback on a later
version of the survey. Despite an initially enthusiastic response from the physician, neither contact was ultimately able to complete a review of the survey.

Initial feedback from the reviewers was positive, however there were still changes to be made. Scenario questions were added, some questions were revised and questions with disputed clarity were removed altogether.

More variety in the professionals that gave feedback on the second version of the survey was sought (Appendix F). These included two Intensive Care physicians, both associated with the medical school at McMaster University, three Intensive Care registered nurses, a Health Promotion Specialist, this study’s faculty advisor, an Associate professor at the University of Toronto and the thesis work group of Master’s Degree and PhD students which is facilitated by this study’s thesis advisor. Appendix I details a table that summarizes the feedback given by each group or individual. Changes that were made during this review were fewer and less complex than the initial review. Version three of the survey was the result of these changes.

Version three of the survey (Appendix G) was used to pilot test the survey with the intended audience, rural community members. Changes based on the results of the pilot testing are discussed in Chapter 4: Data Analysis.

Evidence for the validity of the use of this instrument with this population relate to face validity and content validity. Face validity refers to the degree to which an instrument appears to measure the subject matter it claims to be measuring as determined by laypersons, respondents or other stakeholders. This is a ‘common sense’ approach to validity and can be important for the acceptance of the instrument by laypersons (College Board, 2015). In the case of this instrument, the health promotion specialist, faculty advisor and thesis group were laypersons in
the areas of both unintentional injury and rural health while the intensive care physicians and nurses were laypersons in the area of rural health only. Feedback was also received from the respondents in the pilot test.

Content validity evidence comes from experts in either the content that is being covered by the instrument or the type of testing being done. The purpose of this type of validation is to ensure that the questions being asked align with the actual subject matter that is to be studied (College Board, 2015). The Intensive Care physicians and nurses were considered content experts while the Associate professor at OISE and the Health Promotion specialist have extensive experience with survey development and the type of questions being used in this survey.

The final survey is a forty question instrument with a variety of question styles, including one requiring a written answer which asks the respondent’s opinion on what could be done to address the issues that the respondent feels most affect their community and the option to add comments at the end of the survey. The average time to complete the questionnaire, as self-reported in the comments section by those who completed the pilot test, is approximately ten minutes. An invitation to complete the survey as part of an anonymous pilot test of the questions was sent to contacts in rural communities that fit the same criteria as the interviewees in Phase 1. Those who received the email were asked to forward it and the survey link to anyone they thought might be interested or willing to participate. A sample size of 20 to 30 respondents was the target sample for the pilot; however, only 15 people completed the survey within the timeframe required. According to Hertzog (2008), a sample size of as few as ten is adequate to determine clarity of instructions, item wording and formatting acceptability. A larger sample size is preferred for providing accurate preliminary information and preparing for larger studies;
however, for the purposes of this study, the pilot test aimed to obtain further feedback on the instrument being developed and to determine initial reliability measures only. Further, in discussion with this study’s thesis advisor it was determined that for a pilot study, 15 people would be enough to gather

**Data Analysis**

**Interview Data Analysis**

Data were collected via a digital recorder and manually transcribed into NVIVO. During analysis of the transcribed data, the patterns indicated that participants in the study focused their language on either the speed of the vehicle(s) or on the actual impact of the vehicles. Thus, language used by participants was categorized into two main categories – ‘crash language’ and ‘speed language.’ These data were then used to assess the appropriateness of the language used in the survey questions to ensure a level of understanding consistent with the targeted population – rural community members.

**Survey Pilot Study Analysis: Preparation of the Data**

The pilot study of the survey proved extremely helpful in terms of changes that needed to be made to the third version of the survey as well as in gathering preliminary data.

The survey results were initially manually analyzed. Seventeen people began the online survey. Two were eliminated because they had only answered the demographic questions and then stopped responding. Thus 15 respondents’ answers were analysed. Notes on changes that would be required for the final version of the survey were made by the researcher as the pilot results were reviewed (Appendix H is the final version of the survey). SPSS Version 22.0 was used for quantitative analysis; for the pilot, demographic data were not included in the SPSS analysis as the sample size was too small to compare differences in responses based on gender,
age or level of education. Scenario questions were coded in SPSS as ‘1’ when respondents chose the ‘safest’ scenario option while all other answers were coded as ‘0.’ The total number of ‘safe’ choices that each respondent made overall was calculated. Six survey questions were left out of the SPSS analysis due to one of two reasons. First, that there were too many answer options for the question, for example the question ‘what sources of information do you think can most effectively reach people like you with information on unintentional injury? (check all that apply)’ has twelve possible options. In this case the decision was made to use such questions to guide any education or initiatives that were created out of the study, rather than provide insight into rural trauma. The second reason a question was excluded from the statistical analysis was a lack of variance in the responses. One question in particular that was left out was the scenario question “You’ve been asked to put up the outdoor Christmas lights. Do you (choose all that apply)” the pilot study revealed that this question and its answer key was misunderstood by 53% of the respondents. One respondent, for example, chose ‘I don’t put them up’ and also ‘other’ and specified that her husband was the one who put up the Christmas lights, however one of the response options was ‘get someone else to do it’. Eight of the fifteen respondents indicated ‘I don’t put them up’, this response was originally included to account for those who do not celebrate the holiday of Christmas and thus would not put up lights; from this rural population, it is unlikely that half of the respondents do not celebrate Christmas but rather that they themselves are not responsible for putting up the lights.

**Survey Pilot Study Analysis: Results from Pilot Test Respondents**

Although the primary purpose of the pilot test was to refine the questions, the relationships among the responses were also analyzed. These results must be interpreted with caution because of the very small sample size ($n = 15$). Correlations showed that the respondents
who had heard of unintentional injury ($n = 12$) were more likely to report being scared of it ($r = .521; p < .05$); those who reported having been injured themselves ($n = 4$) were more likely to agree that an injury would change their lives ($r = .538; p < .05$); and those who felt good health was important to them ($n = 12$) were more likely to report participating in activities that they felt would improve their health ($r = .938; p < .01$).

Those who reported that they do not like to think about being injured ($n = 12$) were less likely to take steps towards good health and were less likely to feel that good health was important to them ($r = -.644; p < .01$). They were also less likely to make the ‘safe’ choice as indicated by the total number of safe choices made on the scenario questions ($r = -.369$). Those respondents who did not think that injury was a serious issue ($n = 12$) or that it would change your life ($n = 8$) were also less likely to choose the ‘safe’ option from the scenarios ($r = -.357$ and -.356 respectively). No one respondent chose more than two ‘safe’ behaviours in total from a possible five.

Reliability was determined through internal consistency testing in SPSS. Several questions were grouped together that addressed a similar theme (see Appendix J for questions). A Cronbach Alpha co-efficient of .697 was achieved which indicates an acceptable level of internal consistency (Tavakol & Dennick, 2011).

**Final Survey Changes**

In discussing the feedback from the pilot testing, it was decided that, in keeping with the coding theme of ‘safe’ versus ‘unsafe’ choices, the question about Christmas lights would be reworded and some answers removed in order to allow for appropriate coding on the final version of the survey. The question ‘You’ve been asked to put up the outdoor Christmas lights. Do you (choose all that apply): ’ was changed from a ‘choose all that apply’ to a ‘choose one’
format. It was further reworded to ‘You’ve been asked to put up the Christmas lights at your house or the neighbours. Do you:’. In discussing the scenario questions it was decided that the option in several of the questions that the respondent does not participate in the behaviour in question would be removed. The rationale being that even if the respondent does not consume alcohol or own a cell phone for example, they should still be able to choose the ‘safe’ response to the question being asked. It was for this reason that the question regarding Christmas lights was changed to include ‘or the neighbours’. The question ‘I do not like to think about being injured’ was removed entirely as there was little variance and it was too similar to ‘[t]he thought of suffering an unintentional injury scares me’. See Appendix I for all changes made to the survey from initial through to the fourth and final version.
Chapter 4

Discussion

The purpose of this study was to design a survey based on prior theoretical constructs and research that would determine the attitudes and beliefs of rural community members towards unintentional injury. After design, the use of the survey was validated by experts, and pilot tested with the intended respondents, which also provided information about its reliability. Preliminary data gathered during the pilot testing of the survey revealed some interesting correlations. Several of the correlations found to be significant were expected and confirmed the hypotheses held by the researcher. For instance, those who reported that they do not like to think about being injured were less likely to take steps towards good health, were less likely to feel that good health was important to them and were less likely to make safe choices. Further, those who reported having been injured themselves were more likely to agree that an injury would change their lives and not surprisingly, those who felt good health was important to them were more likely to report participating in activities that they felt would improve their health. Also not surprising was the finding that those who did not think that injury was a serious issue or that it would change your life were also less likely to choose the ‘safe’ option from the scenarios. An unexpected result from the preliminary data was that none of the respondents chose more than two ‘safe’ behaviours in total from a possible five. While the expectation prior to completing the pilot study was that there would be a gap in knowledge regarding unintentional injury and its effects, the results regarding ‘safe’ choices was startling. The idea that none of the 15 respondents were able to pinpoint the safest choice more than twice is concerning and from an educational point of view this indicates that there is much work to be done in the way of health promotion in rural areas.
Strengths of this Study

There are several strengths to this study that should be noted. First, a short video was used during Phase 1 which meant that there was less to remember when describing what was seen and it was easier to remember the purpose of the interview. Also, not having any people or obvious injuries in the video decreased the likelihood that participants would experience distress related to viewing the video. Second, a variety of experts were consulted and while all were within my professional network, none had a vested interest in the specific research or even topic area as they were all urban based experts and could be expected to give honest and professional feedback. Third, the survey was designed using an interview conducted as part of Phase 1 of this study and drawing on previous literature. It was tested for its face and content validity with favourable results. It was then pilot tested and through the pilot test, gave an indication of areas to pay extra attention to when analysing data from a full set of respondents. Lastly, this survey and study is the first of its kind and can be used to gather baseline data as well as information to guide educational initiatives.

Limitations of this Study

There are several limitations that must be considered when looking at this study. First, the length of the video. Such a short video (44 seconds) limited the amount of language required for participants to describe what they saw. Further, given that the video type was limited, due to ethical considerations, to a 3D reconstruction which did not involve showing any people or any injuries being sustained it is possible that the language used by participants was not entirely akin to the language they might use when describing a real life injury. Second, when seeking expert feedback in order to validate the survey two experts were contacted. One, a physician whose specialty is trauma surgery and research interest is specific to rural trauma. He responded and
agreed to give feedback on a final version of the survey, however despite three attempts to reach him at the time that the final version of the survey was ready he failed to respond. The second expert contacted did not respond despite two separate attempts. This resulted in expert feedback coming from only people within my current network of contacts which could have resulted in a favorable bias. The third limitation concerns the term ‘serious injury’ as used in the survey. Respondents were asked if either they or someone they know have been ‘seriously injured’ with the rationale that if the respondents have experience with injury they would be more likely to take precautions to avoid it and make safer choices given their experience with the consequences of not doing so. Unfortunately the word ‘serious’ is subjective and could allow for a wide variety of responses depending on the respondent’s definition of the word ‘serious’. The fourth limitation concerns reliability testing - the Cronbach’s Alpha was determined based on only 5 items. Moving forward a test-retest method of reliability testing could and should be used to further confirm the reliability of the entire instrument. Finally, based on Hertzog’s study (2008) a larger sample size is recommended to fulfill most aims of a pilot study including feasibility, providing preliminary information for grant proposals and estimating effect in larger studies. The sample size used in this study was acceptable for roughly determining the adequacy of the instrument. Despite the limitations mentioned here, the instrument has value as an exploratory tool and further testing with a larger sample size will confirm its validity and reliability as a way to determine the attitudes and beliefs of rural community members towards unintentional injury.

**Future Implications**

The first step in moving forward from this study will be to disseminate the survey and complete analysis with a full set of respondents. The data set that would be generated could be used to guide the development of a health promotion initiative with a specifically rural focus.
Also, the baseline data gathered could be used in future research as an indicator of success for these health promotion initiatives.

Education through health promotion and rural specific injury prevention initiatives is vital to changing the disparities in rural and urban health status. Health promotion and injury prevention are essential to making sure that rural communities continue to thrive. If the trend of injury in Canada continues at the current rate, it will become increasingly difficult to ignore the disparities between urban and rural communities and the positive traits that are associated with rural Canada may cease to exist as residents choose their health and safety over the possibility of picturesque and idyllic rural living.

In summary, the poem by Will Allen Dromgoole entitled The Bridge Builder is representative of the importance of prevention and reminds us that efforts to change the inequality in health status between rural and urban communities is not just for those currently living in rural communities but for those who will call them home in the future.

An old man, going a lone highway,
Came at the evening cold and gray,
To a chasm, vast and deep and wide,
Through which was flowing a sullen tide.
The old man crossed in the twilight dim-
That sullen stream had no fears for him;
But he turned, when he reached the other side,
And built a bridge to span the tide.
"Old man," said a fellow pilgrim near,

"You are wasting strength in building here.

Your journey will end with the ending day;

You never again must pass this way.

You have crossed the chasm, deep and wide,

Why build you the bridge at the eventide?"

The builder lifted his old gray head.

"Good friend, in the path I have come," he said,

"There followeth after me today

A youth whose feet must pass this way.

This chasm that has been naught to me

To that fair-haired youth may a pitfall be.

He, too, must cross in the twilight dim;

Good friend, I am building the bridge for him."
References


Appendix A. Interview Recruitment Letter

To Whom It May Concern,

I am writing to tell you about a study being conducted as part of the requirements for a Master's Thesis at the University of Toronto (OISE) in Petrolia under the supervision of Ruth Childs, PhD.

The purpose of this research study is to determine the language used by non-health care providers to discuss trauma and traumatic injury.

You may be eligible for this study if you live in or around Petrolia, ON in a town of less than 30,000 people and are employed in a profession that is not classified as health care (paramedic, RN, physician, respiratory therapist etc.).

The study would consist of an interview, at a location of your choice that would last approximately 30 minutes. All information collected will be kept confidential.

If you are interested in learning more about this study, please contact me, Adrienne Seabrooke, the primary researcher at adrienne.seabrooke@utoronto.ca

It is important to know that this letter is not to tell you to join this study. It is your decision. Your participation is voluntary.

You do not have to respond if you are not interested in this study. If you do not respond, no one will contact you.

Thank you for your time and consideration. We look forward to hearing from you.

If you know anyone else who would be eligible and interested in participating in this study please pass this email on to them.

Sincerely,

Adrienne Seabrooke
Appendix B. Informed Consent

Informed Consent Form

Thank you for agreeing to participate in this study. This form collects some basic information that will be kept confidential and details the purpose of the study, provides a description of your involvement and your rights as a participant.

Study Purpose
The interview that you are being asked to participate in is a part of a research study that is focused on examining the language used to discuss trauma and traumatic injury in non-healthcare providers.

Participation
Your participation in this study will consist of an interview lasting approximately 15 minutes during which you will be shown a short clip of an accident reconstruction. You will then be asked to describe what you have seen as though you were describing it to a police officer or a reporter.

At any time you may notify the researcher that you would like to stop the interview and your participation in the study. There is no penalty for discontinuing participation. In the event that you choose to withdraw from the study all information you provide will be destroyed and omitted from the final paper.

Benefits and Risks
Insights gathered from you and other participants will be used to develop a survey and will contribute to the body of knowledge on trauma. There may be feelings of discomfort when watching the reconstruction or describing the scene. A pamphlet will be provided to you with various resources available to learn more about trauma and injury prevention and as stated above, you have the option to discontinue your participation in the study at any time.

Confidentiality
The interview will be tape recorded; however, your name will not be recorded on the tape. Your name and identifying information will not be associated with any part of the written report. All of your information and interview responses will be kept confidential. The researcher will not share your individual responses with anyone other than the research supervisor. The information gathered will be used to write a research report; although direct quotes may be used in the paper, your name and other identifying information will be kept anonymous.

If you have any questions or concerns, please contact the researcher by email at adrienne.seabrooke@mail.utoronto.ca
By signing below I acknowledge that I have read and understood the above information. I am aware that I can discontinue my participation in the study at any time.

Signature ______________________________________      Date _____________________
Appendix C. Video Stills
Appendix D. Version I

SURVEY

1. What age bracket are you in?
   18-25
   26-35
   36-45
   46-55
   56-65
   Over 65

2. What is your gender?
   Male
   Female

3. What is the highest level of education you have completed?
   High school not completed
   High school completed
   Vocational/technical training
   College Diploma or Bachelor’s Degree
   Graduate Degree
   Doctorate Degree

4. What is your current employment status?
   Employed for wages
   Self-employed
   Out of work
   Homemaker
   Student
   Retired
   Unable to work

5. What is your current marital status?
   Single, never married
   Married/domestic partnership
   Widowed
   Divorced
   Separated

6. Is the population of the town you currently reside in less than 30 000?
   Yes
   No

7. Do you live at least 30 minutes driving distance from a city with more than 30 000 people?
8. Do you live more than one hour (driving time) from a trauma center (London Health Sciences, Hotel Dieu Grace Hospital-Windsor, Sunnybrook Health Sciences-Toronto, St Michael’s Hospital-Toronto, The Ottawa Hospital, Sudbury Regional Hospital, Sick Kids-Toronto or Children’s Hospital Eastern Ontario)?

   Yes  
   No  
   I don’t know

9. Where do you usually go if you are sick or to treat a general health problem?

   Family doctor  
   Nurse practitioner  
   Walk-in clinic  
   Emergency Department  
   Traditional/Homeopathic practitioner  
   Other: _______________________

10. How often do you seek health care for preventative purposes (i.e. yearly physical, PAP test, prostate check etc.)

   Twice a year or more  
   Once a year  
   Less than once a year but at least twice in the past 5 years  
   Once in the past 5 years  
   Never in the past 5 years  
   Other: _______________________

11. Have you ever heard of unintentional injury/trauma/traumatic injury?

   Yes  
   No

In the opinion of many, unintentional injury (car crashes, farming accidents etc.) is the ‘neglected disease’ of the 21st Century or a ‘silent epidemic’.

12. In your opinion, how serious an issue is unintentional injury?

   Very serious  
   Serious  
   Somewhat serious  
   Not very serious  
   Other: _______________________

13. Is unintentional injury a problem in your town?

   Yes
No
I don’t know

14. What would you say are the risk factors for unintentional injury? (Please check all that apply)

- Speeding
- Alcohol use
- Road conditions
- Drug use
- Not wearing protective gear (helmet, seatbelt etc.)
- Texting
- Age
- Gender
- Ethnic background
- Family history
- Peer pressure

15. In your opinion, what groups are most likely to experience an unintentional injury? (Please check all that apply)

- Youth
- The elderly
- Men
- Women
- Aboriginals
- The middle aged

16. Maintaining good health is important to me.

   Strongly Agree
   Agree
   Neutral
   Disagree
   Strongly Disagree

17. I feel it is important to carry out activities which will improve my health.

   Strongly Agree
   Agree
   Neutral
   Disagree
   Strongly Disagree

18. I feel I am more likely than the average person to suffer a traumatic injury.

   Strongly Agree
   Agree
   Neutral
   Disagree
   Strongly Disagree
19. The thought of suffering a traumatic injury scares me.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

20. I do not like to think about being injured traumatically.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

21. If I sustained a traumatic injury my whole life would change.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

22. I feel I take precautions to avoid unintentional injury in my daily life.

Never
Rarely
Sometimes
Usually
Always

23. I feel comfortable wearing protective equipment (i.e. helmet, lifejacket, seatbelt).

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

24. I choose to decrease my risk of unintentional injury even when it is not convenient (slowing down, putting my phone away).

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
25. I know what things I can do to minimize my risk of traumatic injury on a daily basis.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

26. I am able to identify behaviours that increase my risk of traumatic/unintentional injury

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

27. Do you know someone who has been involved in an accident?

Yes
No

28. Have you ever been involved in an accident?

Yes
No

29. Do you know anyone who has suffered an unintentional injury (**severity)**?

Yes
No

30. Have you ever suffered an unintentional, traumatic injury?

Yes
No
If yes, how severe was it?

31. What worries you the most when you think about unintentional injuries?

____________________________________________________________________________
____________________________________________________________________________

32. Do you think you are at risk for an unintentional injury?

Yes
No
Maybe
I don’t know

33. Do you feel you know a lot about unintentional injuries?

Yes
No

34. Do you wish you could get more information about unintentional injury?
Yes
No

35. What sources of information do you think can most effectively reach people like you with information on unintentional injury? (Check all that apply)

Newspapers/magazines
Radio
Television
Social media
Printed materials (brochures, posters etc.)
Health care workers
Teachers
Religious leaders
None of the above
Other: ________________________

36. What source do you trust most for health care information?

Health care provider
Family
Friends
Social media
Newspaper/magazines
Other: ________________________

37. Among the list of issues mentioned below, which are the two main ones that affect your town the most?

Crime
Chronic disease (heart disease, cancer, obesity)
Lack of entertainment
Drugs
Poverty
Injuries
Unemployment
I don’t know
None of the above
Other: ________________________

38. What, if anything, do you feel could be done to address this issues?

____________________________________________________________________________________

____________________________________________________________________________________

39. What would you say are barriers to reducing the incidence of unintentional injuries in your town?

People don’t think it is an issue
People feel invincible
There is little or no communication about how to take precautions to prevent injuries
No one cares about prevention
You have to drive everywhere
People get bored and resort to alcohol or drug use for entertainment

40. Do you have any comments or concerns you would like to add?
Appendix E. Interview Questions

Interview Question

- Imagine that you are the only witness to the crash and a policeman or reporter asked you to describe what you saw. What would you say?

Prompts
- What did you first notice?
- What was the first thing that happened?

Unfamiliar terms will be clarified throughout the interview.
Appendix F. Version II

SURVEY

Injury is defined by the Center for Disease Control (CDC) as “the physical damage that results when a human body is suddenly subjected to energy in amounts that exceed the threshold of physiologic tolerance—or else the result of a lack of one or more vital elements, such as oxygen”. This survey will focus specifically on unintentional injuries which are those that are “predictable and preventable when proper safety precautions are taken – they are not ‘accidents’”. These include but are not limited to: motor vehicle collisions, suffocation, drowning, poisoning, fire/burns, falls, sports and recreational injuries.

How old are you?
18-25
26-35
36-45
46-55
56-65
Over 65

What is your gender?
Male
Female
Other

What is the highest level of education you have completed?
High school not completed
High school completed
Vocational/technical training
College Diploma or Bachelor’s Degree
Graduate Degree
Doctorate Degree
What is your current employment status?
Employed for wages
Self-employed
Out of work
Homemaker
Student
Retired
Unable to work

What is your current marital status?
Single, never married
Married/domestic partnership
Currently single

Is the population of the town you currently reside in less than 30 000?
Yes
No

What is the approximate population of the town you live in?
1 – 10 000
10 001 – 20 000
20 001 – 30 000

Do you live at least 30 minutes driving distance from a city with more than 30 000 people?
Yes
No
I don’t know
Do you live more than one hour (driving time) from a trauma center (London Health Sciences, Hotel Dieu Grace Hospital-Windsor, Sunnybrook Health Sciences-Toronto, St Michael’s Hospital-Toronto, The Ottawa Hospital, Sudbury Regional Hospital, Sick Kids-Toronto or Children’s Hospital Eastern Ontario)?

Yes
No
I don’t know

You’re planning on a short bike ride in town. Do you:

Wear a helmet
Not wear a helmet and take less busy roads
Not wear a helmet and be extra careful
Not wear a helmet – they mess up my hair
I never wear a helmet
Other: __________________________

You’ve been tasked with putting up the household Christmas lights. Do you (choose all that apply):

Make sure someone is home
Have a cell phone in case I need help
Get someone else to do it
Use a ladder by myself
I don’t put them up
Other: __________________________

If you were driving and your cell phone rang, would you:

Ignore it
Answer it
Check to see who it was and then decide
Answer with a hands free device or pull over and answer
I don’t keep my cell phone within reach while driving
I don’t have a cell phone
Other: ____________________________

You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:
Have a drink at the start of the night so you’re able to drive home at the end of the night
Not consume any alcohol and drive home at the end of the night
Stay at the host’s home
I don’t live far away – I’ll be fine to drive after a few drinks
I don’t drink
I’d get someone to drive me
I drive better when I’m drunk

You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:
Drink casually
Ensure that someone will be there who will be sober
There’s nothing to worry about – I’d have a good time like everyone else
I don’t drink

Where do you usually go if you are sick or to treat a general health problem?
Family doctor
Nurse practitioner
Walk-in clinic
Emergency Department
Traditional/Homeopathic practitioner
Other:_________________________
How often do you seek health care for preventative purposes (i.e. yearly physical, PAP test, prostate check etc.)

Twice a year or more
Once a year
Less than once a year but at least twice in the past 5 years
Once in the past 5 years
Never in the past 5 years
Other: _______________________

Have you ever heard of unintentional injury/trauma/traumatic injury?

Yes
No

On a scale from 1 (not serious at all) to 5 (very serious), in your opinion, how serious an issue is unintentional injury in your town?

1
2
3
4
5

What would you say are the risk factors for unintentional injury? (Please check all that apply)

Speeding
Alcohol use
Road conditions
Drug use
Not wearing protective gear (helmet, seatbelt etc.)
Texting
Unintentional Injury in the Rural Setting

Age
Gender
Ethnic background
Family history
Peer pressure

Maintaining good health is important to me.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel it is important to carry out activities which will improve my health.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel I am more likely than the average person to suffer a traumatic injury.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
The thought of suffering an unintentional injury scares me.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I do not like to think about being injured.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If I sustained an unintentional injury my whole life would change.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel I take precautions to avoid unintentional injury in my daily life.
Never
Rarely
Sometimes
Usually
Always
I feel comfortable wearing protective equipment (i.e. helmet, lifejacket, seatbelt).
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I know what things I can do to minimize my risk of traumatic injury on a daily basis.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I am able to identify behaviours that increase my risk of traumatic/unintentional injury
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Do you know someone who has been seriously injured?
Yes
No

Have you ever been seriously injured?
Yes
No
Do you think you are at risk for an unintentional injury?
Yes
No
Maybe
I don’t know

Do you feel you know a lot about unintentional injuries?
Yes
No

Do you wish you could get more information about unintentional injury?
Yes
No

What sources of information do you think can most effectively reach people like you with information on unintentional injury? (Check all that apply)
Newspapers/magazines
Radio
Television
Social media
Printed materials (brochures, posters etc.)
Health care workers
Teachers
Religious leaders
None of the above
Other:________________________
Unintentional Injury in the Rural Setting

What source do you trust most for health care information?
Health care provider
Family
Friends
Social media
Newspaper/magazines
Other: __________________

Among the list of issues mentioned below, which do you think are the TWO main ones that affect your town the most?
Crime
Chronic disease (heart disease, cancer, obesity)
Lack of entertainment
Drugs
Poverty
Injuries
Unemployment
I don’t know
None of the above
Other: __________________

What, if anything, do you feel could be done to address these issues?
______________________________________________________________________________
______________________________________________________________________________

What would you say are barriers to reducing the incidence of unintentional injuries in your town?
People don’t think it is an issue
People feel invincible
There is little or no communication about how to take precautions to prevent injuries
No one cares about prevention
You have to drive everywhere
People get bored and resort to alcohol or drug use for entertainment

Do you have any comments or concerns you would like to add?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Thank you for your participation. Your responses will be used to help shape a future injury prevention initiative for rural communities. For more information on reducing your risk for unintentional injury please visit: www.parachutecanada.org. If you feel worried about your risk for unintentional injuries please speak to a health care professional directly about lowering your risk. Remember that unintentional injuries are preventable.
Appendix G. Version III

SURVEY

Injury is defined by the Merriam-Webster dictionary as “harm or damage; an act or event that causes someone or something to no longer be fully healthy or in good condition”. This survey will focus specifically on **unintentional injuries** which are those that are “predictable and preventable when proper safety precautions are taken – they are not ‘accidents’”. These include but are not limited to: motor vehicle collisions, suffocation, drowning, poisoning, fire/burns, falls, sports and recreational injuries.

**How old are you?**

18-25  
26-35  
36-45  
46-55  
56-65  
Over 65

**What is your gender?**

Male  
Female  
Other

**What is the highest level of education you have completed?**

High school not completed  
High school completed  
Vocational/technical training  
College Diploma or Bachelor’s Degree  
Graduate Degree  
Doctorate Degree
What is your current employment status?
Employed for wages
Self-employed
Out of work
Homemaker
Student
Retired
Unable to work

*potential branch question from above*
If employed, are you employed in the health care sector (for example, physiotherapist, registered nurse, respiratory therapist, physician, occupational therapist etc.)?
Yes
No

What is your current marital status?
Single
Married/domestic partnership

Do you have children?
Yes
No

Is the population of the community you currently reside in less than 30 000?
Yes
No

If the answer is no then respondents will be directed to a page thanking them for participating but that we are looking at residents of rural communities with a population of less than 30 000
What is the approximate population of the community you live in?
1 – 10 000
10 001 – 20 000
20 001 – 30 000

Do you live at least 30 minutes driving distance from a community with more than 30 000 people?
Yes
No
I don’t know

Do you live more than one hour (driving time) from a trauma center (London Health Sciences, Hotel Dieu Grace Hospital-Windsor, Hamilton General Hospital, Sunnybrook Health Sciences-Toronto, St Michael’s Hospital-Toronto, The Ottawa Hospital, Sudbury Regional Hospital, Sick Kids-Toronto or Children’s Hospital Eastern Ontario)?
Yes
No
I don’t know

Have you ever heard of unintentional injury/trauma/traumatic injury?
Yes
No

You’re planning on a short bike ride in town. Do you:
Wear a helmet
Not wear a helmet and take less busy roads
Not wear a helmet and be extra careful
Not wear a helmet – they aren’t comfortable
I never wear a helmet
Other: __________________________
You’ve been asked to put up the outdoor Christmas lights. Do you (choose all that apply):
Make sure someone is home
Have a cell phone in case I need help
Get someone else to do it
Use a ladder by myself
I don’t put them up
Other: __________________________

If you were driving and your cell phone rang, would you:
Ignore it
Answer it
Check to see who it was and then decide
Answer with a hands free device or pull over and answer
I don’t keep my cell phone within reach while driving
I don’t have a cell phone
Other: __________________________

You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:
Have a drink at the start of the night so you’re able to drive home at the end of the night
Not consume any alcohol and drive home at the end of the night
Stay at the host’s home
I don’t live far away – I’ll be fine to drive after a few drinks
I don’t drink
I’d get someone to drive me
I drive better when I’m drunk
You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:

Drink casually

Ensure that someone will be there who will be sober

There’s nothing to worry about – I’d have a good time like everyone else

I don’t drink

Where do you usually go if you are sick or to treat a general health problem?

Family doctor

Nurse practitioner

Walk-in clinic

Emergency Department

Traditional/Homeopathic practitioner

Other: _______________________

How often do you seek health care for preventative purposes (i.e. yearly physical, PAP test, prostate check etc.)

Twice a year or more

Once a year

Less than once a year but at least twice in the past 5 years

Once in the past 5 years

Never in the past 5 years

Other: _______________________
On a scale from 1 (not serious at all) to 5 (very serious), in your opinion, how serious an issue is unintentional injury in your community?

1
2
3
4
5

What would you say are the risk factors for unintentional injury? (Please check all that apply)

- Speeding
- Alcohol use
- Road conditions
- Drug use
- Not wearing protective gear (helmet, seatbelt etc.)
- Texting
- Age
- Gender
- Ethnic background
- Family history
- Peer pressure
- Religion

Maintaining good health is important to me.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
I feel it is important to carry out activities which will improve my health.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel I am more likely than the average person to suffer an unintentional injury.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

The thought of suffering an unintentional injury scares me.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I do not like to think about being injured.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
If I sustained an unintentional injury my whole life would change.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel I take precautions to avoid unintentional injury in my daily life.

Never
Rarely
Sometimes
Usually
Always

I feel comfortable wearing protective equipment (i.e. helmet, lifejacket, seatbelt).

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I know what things I can do to minimize my risk of traumatic injury on a daily basis.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
I am able to identify behaviours that increase my risk of traumatic/unintentional injury
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Do you know someone who has been seriously injured?
Yes
No

Have you ever been seriously injured?
Yes
No

Do you think you are at risk for an unintentional injury?
Yes
No
Maybe
I don’t know

Do you feel you know a lot about unintentional injuries?
Yes
No
Do you wish you could get more information about unintentional injury?
Yes
No

What sources of information do you think can most effectively reach people like you with information on unintentional injury? (Check all that apply)
Newspapers/magazines
Radio
Television
Social media
Printed materials (brochures, posters etc.)
Health care workers
Teachers
Religious leaders
Politicians
Union affiliates
None of the above
Other:________________________

What source do you trust most for health care information?
Health care provider
Family
Friends
Social media
Newspaper/magazines
TV shows
Internet
Other:_______________________
Among the list of issues mentioned below, which do you think are the TWO main ones that affect your community the most?

Crime
Chronic disease (heart disease, cancer, obesity)
Lack of entertainment
Drugs
Poverty
Injuries
Unemployment
Immigration
I don’t know
None of the above
Other: __________________

What, if anything, do you feel could be done to address these issues?
____________________________________________________________________________
____________________________________________________________________________

What would you say makes it hard to reduce the number of unintentional injuries in your community?

People don’t think it is an issue
People feel invincible
No one cares about prevention
Lack of available information
You have to drive everywhere
People get bored and resort to alcohol or drug use for entertainment
There is a lack of law enforcement to make sure people follow rules
Do you have any comments or concerns you would like to add?

______________________________________________________________________________

______________________________________________________________________________

____________________

Thank you for your participation. Your responses will be used to help shape a future injury prevention initiative for rural communities. For more information on reducing your risk for unintentional injury please visit: [www.parachutecanada.org](http://www.parachutecanada.org). If you feel worried about your risk for unintentional injuries please speak to a health care professional directly about lowering your risk. Remember that unintentional injuries are preventable.
Appendix H. Version IV

SURVEY

Injury is defined by the Merriam-Webster dictionary as “harm or damage; an act or event that causes someone or something to no longer be fully healthy or in good condition”. This survey will focus specifically on unintentional injuries which are those that are “predictable and preventable when proper safety precautions are taken – they are not ‘accidents’”. These include but are not limited to: motor vehicle collisions, suffocation, drowning, poisoning, fire/burns, falls, sports and recreational injuries.

How old are you?
18-25
26-35
36-45
46-55
56-65
Over 65

What is your gender?
Male
Female
Other

What is the highest level of education you have completed?
High school not completed
High school completed
Vocational/technical training
College Diploma or Bachelor’s Degree
Graduate Degree
Doctorate Degree
What is your current employment status?
Employed for wages
Self-employed
Out of work
Homemaker
Student
Retired
Unable to work
*potential branch question from above*
If employed, are you employed in the health care sector (for example, physiotherapist, registered nurse, respiratory therapist, physician, occupational therapist etc.)?
Yes
No

What is your current marital status?
Single
Married/domestic partnership

Do you have children?
Yes
No

Is the population of the community you currently reside in less than 30 000?
Yes
No
If the answer is no then respondents will be directed to a page thanking them for participating but that we are looking at residents of rural communities with a population of less than 30 000
What is the approximate population of the community you live in?
1 – 10 000
10 001 – 20 000
20 001 – 30 000

Do you live at least 30 minutes driving distance from a community with more than 30 000 people?
Yes
No
I don’t know

Do you live more than one hour (driving time) from a trauma center (London Health Sciences, Hotel Dieu Grace Hospital-Windsor, Hamilton General Hospital, Sunnybrook Health Sciences-Toronto, St Michael’s Hospital-Toronto, The Ottawa Hospital, Sudbury Regional Hospital, Sick Kids-Toronto or Children’s Hospital Eastern Ontario)?
Yes
No
I don’t know

Have you ever heard of unintentional injury/trauma/traumatic injury?
Yes
No

You’re planning on a short bike ride in town. Do you:
Wear a helmet
Not wear a helmet and take less busy roads
Not wear a helmet and be extra careful
Not wear a helmet – they aren’t comfortable
I never wear a helmet
Other: __________________________
You’ve been asked to put up the outdoor Christmas lights at your house or the neighbours. Do you:
Make sure someone is home
Have a cell phone in case I need help
Use a ladder by myself
Other: __________________________

If you were driving and your cell phone rang, would you:
Ignore it
Answer it
Check to see who it was and then decide
Answer with a hands free device or pull over and answer
I don’t keep my cell phone within reach while driving
Other: __________________________

You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:
Have a drink at the start of the night so you’re able to drive home at the end of the night
Not consume any alcohol and drive home at the end of the night
Stay at the host’s home
I don’t live far away – I’ll be fine to drive after a few drinks
I’d get someone to drive me
I drive better when I’m drunk

You’re getting together with a group of friends at someone’s house and you know there will be alcohol. Do you:
Drink casually
Ensure that someone will be there who will be sober
There’s nothing to worry about – I’d have a good time like everyone else

**Where do you usually go if you are sick or to treat a general health problem?**

- Family doctor
- Nurse practitioner
- Walk-in clinic
- Emergency Department
- Traditional/Homeopathic practitioner
- Other: ____________________________

**How often do you seek health care for preventative purposes (i.e. yearly physical, PAP test, prostate check etc.)**

- Twice a year or more
- Once a year
- Less than once a year but at least twice in the past 5 years
- Once in the past 5 years
- Never in the past 5 years
- Other: ____________________________

**On a scale from 1 (not serious at all) to 5 (very serious), in your opinion, how serious an issue is unintentional injury in your community?**

1
2
3
4
5
**What would you say are the risk factors for unintentional injury? (Please check all that apply)**

- Speeding
- Alcohol use
- Road conditions
- Drug use
- Not wearing protective gear (helmet, seatbelt etc.)
- Texting
- Age
- Gender
- Ethnic background
- Family history
- Peer pressure
- Religion

**Maintaining good health is important to me.**

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

**I feel it is important to carry out activities which will improve my health.**

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
I feel I am more likely than the average person to suffer an unintentional injury.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

The thought of suffering an unintentional injury scares me.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

If, in spite of my best efforts, I sustained an unintentional injury, my whole life would change.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel I take precautions to avoid unintentional injury in my daily life.

Never
Rarely
Sometimes
Usually
Always
I feel comfortable wearing protective equipment (i.e. helmet, lifejacket, seatbelt).
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I know what things I can do to minimize my risk of traumatic injury on a daily basis.
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I am able to identify behaviours that increase my risk of traumatic/unintentional injury
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

Do you know someone who has been seriously injured?
Yes
No

Have you ever been seriously injured?
Yes
No
Do you think you are at risk for an unintentional injury?
Yes
No
Maybe
I don’t know

Do you feel you know a lot about unintentional injuries?
Yes
No

Do you wish you could get more information about unintentional injury?
Yes
No

What sources of information do you think can most effectively reach people like you with information on unintentional injury? (Check all that apply)
Newspapers/magazines
Radio
Television
Social media
Printed materials (brochures, posters etc.)
Health care workers
Teachers
Religious leaders
Politicians
Union affiliates
None of the above
Other:________________________
**What source do you trust most for health care information?**

Health care provider
Family
Friends
Social media
Newspaper/magazines
TV shows
Internet
Other: __________________

**Among the list of issues mentioned below, which do you think are the TWO main ones that affect your community the most?**

Crime
Chronic disease (heart disease, cancer, obesity)
Lack of entertainment
Drugs
Poverty
Injuries
Unemployment
Immigration
I don’t know
None of the above
Other: __________________
Unintentional Injury in the Rural Setting

What, if anything, do you feel could be done to address these issues?
______________________________________________________________________________
______________________________________________________________________________

What would you say makes it hard to reduce the number of unintentional injuries in your community?
People don’t think it is an issue
People feel invincible
No one cares about prevention
Lack of available information
You have to drive everywhere
People get bored and resort to alcohol or drug use for entertainment
There is a lack of law enforcement to make sure people follow rules

Do you have any comments or concerns you would like to add?
______________________________________________________________________________
______________________________________________________________________________

Thank you for your participation. Your responses will be used to help shape a future injury prevention initiative for rural communities. For more information on reducing your risk for unintentional injury please visit: www.parachutecanada.org. If you feel worried about your risk for unintentional injuries please speak to a health care professional directly about lowering your risk. Remember that unintentional injuries are preventable.
### Appendix I. Feedback Table

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>FEEDBACK</th>
<th>PILOT SURVEY</th>
<th>CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>How old are you?</td>
<td>I wonder if you can just ask “what is your age?” -- they'll see that they select a range, so no need to specify &quot;bracket&quot;</td>
<td>Not using demographic data for analysis through SPSS</td>
<td>Changed to ‘how old are you?’ (v.2)</td>
</tr>
<tr>
<td>18-25</td>
<td></td>
<td></td>
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<tr>
<td>26-35</td>
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<td></td>
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<tr>
<td>36-45</td>
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<td></td>
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<tr>
<td>46-55</td>
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<td></td>
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<tr>
<td>56-65</td>
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<td></td>
<td></td>
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<tr>
<td>Over 65</td>
<td></td>
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<tr>
<td>What is your gender?</td>
<td>Some people get twitchy and like to see an ‘Other’ in gender for those who don’t identify as male/female. That is a Public Health thing though, always worried about discriminating. The other option is to leave this as optional.</td>
<td>Not using demographic data for analysis through SPSS</td>
<td>Added ´other’ (v.2)</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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<tr>
<td>What is the highest level of education you have completed?</td>
<td></td>
<td>Not using demographic data for analysis through SPSS</td>
<td></td>
</tr>
<tr>
<td>High school not completed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school completed</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Vocational/technical training</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>College Diploma or Bachelor’s Degree</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Graduate Degree</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Doctorate Degree</td>
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<tr>
<td>What is your current employment status?</td>
<td>Are you interested in part-time vs full-time? Not saying you should be, I’m just curious. Be sure your respondents can distinguish between ‘employed for wages’ and ‘self-employed’ – categories could overlap Add a branch to determine whether they are employed in health care or not? Add volunteer as an option?</td>
<td>Not using demographic data for analysis through SPSS</td>
<td>This will not work because people could volunteer and be retired/SAHM/working etc.</td>
</tr>
<tr>
<td>Employed for wages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed</td>
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<td></td>
<td></td>
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<tr>
<td>Out of work</td>
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<td></td>
<td></td>
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<tr>
<td>Homemaker</td>
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<td></td>
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<tr>
<td>Student</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Retired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
<td>Notes</td>
<td></td>
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<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>What is your current marital status?</td>
<td>I'm not sure but I think more people would be familiar with the terminology of common-law – or are you looking for anyone who lives together?</td>
<td>Not using demographic data for analysis through SPSS</td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td></td>
<td>Changed to just ‘single’ or ‘married/domestic partnership’ options</td>
<td></td>
</tr>
<tr>
<td>Married/domestic partnership</td>
<td></td>
<td>Combined into ‘currently single from widowed, divorced, separated’ (v.2)</td>
<td></td>
</tr>
<tr>
<td>Currently single</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

| Is the population of the town you currently reside in less than 30 000? | Are you going to use skip logic in the survey to take those who answer ‘no’ to the final page or do you still want them to answer the other questions? | Use skip logic when designing survey online. If respondent answers ‘no’ then they will be directed out of the survey with a thank you note. Only looking for respondents who fit the criteria of living in a community of less than 30 000. Changed ‘town’ to ‘community’ (v.3) |
| Yes                                                                    |                                                                          |                                                                                                |
| No                                                                     |                                                                          |                                                                                                |
| Is the population of the town you currently reside in less than 30 000? | Are you going to use skip logic in the survey to take those who answer ‘no’ to the final page or do you still want them to answer the other questions? | Use skip logic when designing survey online. If respondent answers ‘no’ then they will be directed out of the survey with a thank you note. Only looking for respondents who fit the criteria of living in a community of less than 30 000. Changed ‘town’ to ‘community’ (v.3) |
| Yes                                                                    |                                                                          |                                                                                                |
| No                                                                     |                                                                          |                                                                                                |

Similarity of the ‘single’ categories could cause confusion
Is the distinction among these important for your study?
Add a question about kids?
(the thinking is that when you have someone – partner or kids – that you’re accountable to, you may make safer choices)

Use the term ‘community’ instead of ‘town’ to be more inclusive/reach a wider audience with less confusion
Would you be interested in the actual size -- perhaps have them select from several ranges?

Use skip logic when designing survey online. If respondent answers ‘no’ then they will be directed out of the survey with a thank you note. Only looking for respondents who fit the criteria of living in a community of less than 30 000; this See next question (change made on v.2). This is an exclusion question – answer must be yes or they will be directed away from the survey. Rationale is that the majority of studies on actual mortality rates in rural areas focus on areas with populations less than 30 000; this
<table>
<thead>
<tr>
<th>Question</th>
<th>Change</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the approximate population of the town you live in?</td>
<td>Use the term ‘community’ instead of ‘town’ to be more inclusive/reach a wider audience with less confusion</td>
<td>Changed ‘town’ to ‘community’ (v.3)</td>
</tr>
<tr>
<td>1 – 10 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 001 – 20 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 001 – 30 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you live at least 30 minutes driving distance from a city with more than 30 000 people?</td>
<td>Use the term ‘community’ instead of ‘town’ to be more inclusive/reach a wider audience with less confusion</td>
<td>Changed ‘town’ to ‘community’ (v.3)</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t know</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you live more than one hour (driving time) from a trauma center (London Health Sciences, Hotel Dieu Grace Hospital-Windsor, Sunnybrook Health Sciences-Toronto, St Michael’s Hospital-Toronto, The Ottawa Hospital, Sudbury Regional Hospital, Sick Kids-Toronto or Children’s Hospital Eastern Ontario)?</td>
<td>Add Hamilton General Hospital</td>
<td>Added Hamilton General Hospital (v. 3)</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t know</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You’re planning on a short bike ride in town.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wear a helmet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not wear a helmet and take less busy roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not wear a helmet and be extra careful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not wear a helmet – they mess up my hair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I never wear a helmet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: __________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Change the code for these scenario questions to a safe (1) vs unsafe (0) algorithm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Change answers (and then be able to code) to reflect the safest choice (coded 1) and then all other choices will be coded 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Change from ‘choose all’ to pick one only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• This question was not used for analysis during the pilot phase as the question seemed to confuse many of the respondents (one respondent chose ‘other’ and explained that her husband put them up</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### You’ve been tasked with putting up the household Christmas lights. Do you (choose all that apply):

- **Make sure someone is home**
- **Have a cell phone in case I need help**
- **Get someone else to do it**
- **Use a ladder by myself**
- **I don’t put them up**
- Other: __________________________

**‘tasked’ – advanced language. Perhaps something like ‘asked to put up the outdoor Christmas lights’**

Use ‘outdoor’ instead of ‘household’ to eliminate the imagery of inside lights (perhaps on the tree or banister and may not require a ladder) if what you’re going for is the outside lights

---

### If you were driving and your cell phone rang, would you:

- **Ignore it**
- **Answer it**
- **Check to see who it was and then decide**

**Would a separate question regarding whether you keep your cell phone within reach be better?**

Seems that one answer option doesn’t fit

---

### Despite an option being ‘get someone else to do it’

- In keeping with the safe/unsafe options ‘get someone else to do it’ and ‘I don’t put them up’ will be removed before dissemination - the thinking being that people will be able to determine what the safe option would be even IF they do not put up Christmas lights

- Change the question to ‘You’ve been asked to put up the outdoor Christmas lights at your house or at the neighbours’

---

### If you were driving and your cell phone rang, would you:

- **Ignore it**
- **Answer it**
- **Check to see who it was and then decide**

**Would a separate question regarding whether you keep your cell phone within reach be better?**

Seems that one answer option doesn’t fit

---

### If you were driving and your cell phone rang, would you:

- **Ignore it**
- **Answer it**
- **Check to see who it was and then decide**

**Would a separate question regarding whether you keep your cell phone within reach be better?**

Seems that one answer option doesn’t fit

---

### Remove the option ‘I don’t have a cell phone’ – the thinking being that people will be able to determine what the safe option would be even IF they do not have a cell phone

---

### Remove the option ‘I don’t drink’ - the thinking being that people will be able to determine what the safe option would be even IF they do not drink

---

### Changed wording to be simpler (v. 3)

### Changed to ‘outdoor’ (v.3)
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer with a hands free device or pull over and answer</td>
<td>I don’t keep my cell phone within reach while driving</td>
<td></td>
</tr>
<tr>
<td>I don’t have a cell phone</td>
<td>Other: ____________________________</td>
<td></td>
</tr>
<tr>
<td>You’re getting together with a group of friends at someone’s house and</td>
<td>Have a drink at the start of the night so you’re able to drive home at</td>
<td>Remove the option ‘I don’t drink’ - the thinking being that people will</td>
</tr>
<tr>
<td>you know there will be alcohol. Do you:</td>
<td>the end of the night</td>
<td>be able to determine what the safe option would be even IF they do not</td>
</tr>
<tr>
<td>Have a drink at the start of the night so you’re able to drive home at</td>
<td>Not consume any alcohol and drive home at the end of the night</td>
<td>drink</td>
</tr>
<tr>
<td>the end of the night</td>
<td>Stay at the host’s home</td>
<td>No more than 2 ‘safe’ behaviours were chosen per person</td>
</tr>
<tr>
<td>I don’t live far away – I’ll be fine to drive after a few drinks</td>
<td>I don’t drink</td>
<td></td>
</tr>
<tr>
<td>I don’t drink</td>
<td>I’d get someone to drive me</td>
<td></td>
</tr>
<tr>
<td>I drive better when I’m drunk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You’re getting together with a group of friends at someone’s house and</td>
<td>Ensure that someone will be there who will be sober</td>
<td>No variance so removed for SPSS analysis</td>
</tr>
<tr>
<td>you know there will be alcohol. Do you:</td>
<td>There’s nothing to worry about – I’d have a good time like everyone else</td>
<td>Everyone responded appropriately</td>
</tr>
<tr>
<td>Drink casually</td>
<td>I don’t drink</td>
<td></td>
</tr>
<tr>
<td>Ensure that someone will be there who will be sober</td>
<td>I drive better when I’m drunk</td>
<td></td>
</tr>
<tr>
<td>There’s nothing to worry about – I’d have a good time like everyone else</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where do you usually go if you are sick or to treat a general health</td>
<td>Family doctor</td>
<td></td>
</tr>
<tr>
<td>problem?</td>
<td>Nurse practitioner</td>
<td></td>
</tr>
<tr>
<td>Walk-in clinic</td>
<td>Emergency Department</td>
<td></td>
</tr>
<tr>
<td>Traditional/Homeopathic practitioner</td>
<td>Other: ____________________________</td>
<td></td>
</tr>
<tr>
<td>“if you are sick with a general health problem, where would you go for</td>
<td></td>
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<tr>
<td>treatment?”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No variance so removed for SPSS analysis</td>
</tr>
<tr>
<td>Question</td>
<td>Suggested Changes</td>
<td></td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>How often do you seek health care for preventative purposes (i.e. yearly physical, PAP test, prostate check etc.)</td>
<td>What is the purpose of this question in the context of this survey? Not trying to be a punk but after reading the other questions I do not see a role for it. (although I love me some preventative health care). In terms of a prevention-focused question for unintentional traumatic injuries I would maybe ask something like: I take precautions to lessen my risk of traumatic injury (always, sometimes, rarely, never) in the section below. ‘prevention’ vs “preventative purposes”?</td>
<td></td>
</tr>
<tr>
<td>Have you ever heard of unintentional injury/trauma/traumatic injury?</td>
<td>Move this to an earlier spot in the survey to ensure accuracy and avoid triggers</td>
<td></td>
</tr>
<tr>
<td>On a scale from 1 (not serious at all) to 5 (very serious), in your opinion, how serious an issue is unintentional injury in your town?</td>
<td>I might use a likert scale here instead: On a scale of 1 to 10 (10 being extremely serious, 1 being not serious at all) how serious an issue would you say unintentional injury is? Use the term ‘community’ instead of ‘town’ to be more inclusive/reach a wider audience with less confusion. Not for analysis with SPSS – too many options</td>
<td>Moved to earlier (v.3)</td>
</tr>
<tr>
<td>What would you say are the risk factors for unintentional injury? (Please check all that apply)</td>
<td>Changed ‘town’ to ‘community’ (v.3)</td>
<td></td>
</tr>
<tr>
<td>Speeding</td>
<td>-added factors that do not contribute to unintentional injury (v.2)</td>
<td></td>
</tr>
<tr>
<td>Alcohol use</td>
<td></td>
<td></td>
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<tr>
<td>Road conditions</td>
<td></td>
<td></td>
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<tr>
<td>Drug use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not wearing protective gear (helmet, seatbelt etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texting</td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic background</td>
<td>In terms of measuring level of knowledge you could also add in other factors that are not actually risk factors to gauge if people are misunderstanding the issue. For instance, do people think race or income level is a risk factor (if they are they should be in this list too)? From a population health perspective I’m curious if things like social norms are a risk factor – peer pressure, community cohesion and attitudes towards certain behaviours. Include religion, past medical history as options here</td>
<td></td>
</tr>
<tr>
<td>Family history</td>
<td>I’m not sure how “most likely” and “check all that apply” fit together. Maybe a series of questions: Which are more likely to experience an unintentional injury: Men or women? Youth or the elderly? etc.</td>
<td></td>
</tr>
<tr>
<td>Peer pressure</td>
<td>Will add religion. Unsure about past history as this could contribute (seizure disorder/TBI etc.) but doesn’t always – would it skew data?? (v.3) Language changed to be more broad and also include non-risk factors</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Maintaining good health is important to me. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE) | Q’s 24 and 25 seemed out of place since the Q’s before and answer were specific to injuries so I would put them right at the beginning of this ‘section’ of questions instead. Do not use extremely as it will limit your chances of capturing the majority of respondents true feelings. I would leave it as ‘important’ as this may be more applicable to more people and won’t limit you to knowing only the number of people who consider it ‘extremely important’ – I say this from a |
| | -removed the word ‘extremely’ |</p>
<table>
<thead>
<tr>
<th>Statement</th>
<th>Suggested Changes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel it is important to carry out activities which will improve my health. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>Could be written more clearly</td>
<td></td>
</tr>
<tr>
<td>I feel I am more likely than the average person to suffer a traumatic injury. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>Use ‘unintentional’ instead of ‘traumatic’ for consistency</td>
<td>Changed to ‘unintentional’ (v. 3)</td>
</tr>
<tr>
<td>The thought of suffering an unintentional injury scares me. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>Is this for them personally – like they are afraid of themselves suffering a traumatic injury or just in general the idea of traumatic injuries is scary?</td>
<td>● Remove – very similar to ‘the thought of suffering an unintentional injury scares me’</td>
</tr>
<tr>
<td>I do not like to think about being injured. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>Very similar to the question above. Is the purpose to gauge whether they are avoiding thinking about it? You could re-word this one to say ‘I don’t like to think about being injured’ – to get the same result but to distinguish it from the fear related question above.</td>
<td></td>
</tr>
<tr>
<td>If I sustained an unintentional injury my whole life would change. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>Use ‘suffered’ or ‘had’ instead of sustained to maintain simple language? Some question surrounding severity of the injury and being able to determine/convey the appropriate level of severity to respondents</td>
<td></td>
</tr>
<tr>
<td>I feel I take precautions to avoid unintentional injury in my daily life. Never Rarely Sometimes Usually Always</td>
<td>I might re-word this to say: I wear protective equipment and have the answers options be: Always, Sometimes, Rarely, Never. I know it would mess up the flow of the type of question but I think you would get more out of it. Or you could change uncomfortable to comfortable and ask it the way you have it. It gives it a more positive frame instead of a negative one which may cause people to</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Notes</td>
<td></td>
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<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>I feel comfortable wearing protective equipment (i.e. helmet, lifejacket, seatbelt). (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>answer a certain way rather than honestly (ie if they perceive the question to be asking if they do something wrong they will answer the way they think they should rather than honestly).</td>
<td></td>
</tr>
<tr>
<td>I know what things I can do to minimize my risk of traumatic injury on a daily basis. (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td>‘the things’ vs ‘what things’ Use ‘unintentional’ instead of ‘traumatic’ for consistency</td>
<td></td>
</tr>
<tr>
<td>I am able to identify behaviours that increase my risk of traumatic/unintentional injury (5 POINT SCALE – STRONGLY AGREE TO STRONGLY DISAGREE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you know someone who has been seriously injured? Yes No</td>
<td>Are you going to add a question in regarding this? You could do a ‘If yes, how bad was the injury?’ You can give them a list of options (fatal, they were ok, etc) or let them answer in a text box. Move this question to earlier ?branch if yes to get further info</td>
<td></td>
</tr>
<tr>
<td>Have you ever been seriously injured? Yes No</td>
<td>You want to ask this because it will be crucial to your analysis of level of knowledge and awareness – people who have suffered such an injury will most likely know much more than the average person, they will likely also consider themselves at greater risk too. Later you can do sensitivity analysis to eliminate this group from the overall data to see if their answers skew the data.</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Do you think you are at risk for an unintentional injury?</td>
<td>Yes, No, Maybe, I don’t know</td>
<td>Move this question to earlier ?branch if yes to get further info</td>
</tr>
<tr>
<td>Do you feel you know a lot about unintentional injuries?</td>
<td>Yes, No</td>
<td>High correlation between the people who chose yes here and those who felt they were at higher risk</td>
</tr>
<tr>
<td>Do you wish you could get more information about unintentional injury?</td>
<td>Yes, No</td>
<td>Not used for analysis with SPSS – too many options</td>
</tr>
<tr>
<td>What sources of information do you think can most effectively reach people like you with information on unintentional injury? (Check all that apply)</td>
<td>Newspapers/magazines, Radio, Television, Social media, Printed materials (brochures, posters etc.), Health care workers, Teachers, Religious leaders, None of the above, Other: ________________</td>
<td>Keeping with safe/unsafe options, ‘health care provider’ will be coded as the safest behavior (1) with the rest coded as 0 for unsafe Added both (v.3)</td>
</tr>
<tr>
<td>What source do you trust most for health care information?</td>
<td>Health care provider, Family, Friends</td>
<td>Not used for analysis with SPSS – too many options                                                                                     Added both (v.3)</td>
</tr>
</tbody>
</table>
### Unintentional Injury in the Rural Setting

#### Among the list of issues mentioned below, which do you think are the TWO main ones that affect your town the most?
- Crime
- Chronic disease (heart disease, cancer, obesity)
- Lack of entertainment
- Drugs
- Poverty
- Injuries
- Unemployment
- I don’t know
- None of the above
- Other: __________________

*Use ‘community’ instead of ‘town’*
*Add immigration as an option*

Wow, these seem really hard to compare to each other. Perhaps have them rate each individually?

*Changed to ‘community’ (v.3)*
*Added immigration (v.3)*

Trying to get a sense of which issues the population sees as a problem given that we ‘know what the answers are’ Rating each would be too time consuming given the length of the survey already.

#### What, if anything, do you feel could be done to address these issues?

- Not used for analysis with SPSS – too many options

#### What would you say are barriers to reducing the incidence of unintentional injuries in your town?
- People don’t think it is an issue
- People feel invincible
- There is little or no communication about how to take precautions to prevent injuries
- No one cares about prevention
- You have to drive everywhere
- People get bored and resort to alcohol or drug use for entertainment

This can be written way better – sorry I’m not very crafty today. This question will help clarify the perceived barriers to reducing injury – this is key in HP strategies. If we know what people think is restricting them we can address those issues in our initiative design.

*Barriers is an advanced term – think about using something simpler*

Barrier is advanced/a research term…either simplify language or change the question to something like “what would decrease the number of unintentional injuries…”

*Change ‘town’ to ‘community’*

#### New question: “What would you say makes it hard to reduce the number of unintentional injuries in your community?”
<table>
<thead>
<tr>
<th>Added lack of law enforcement; lack of information as options</th>
<th>Added both (v.3) and removed ‘There is little or no communication about how to take precautions to prevent injuries’ as it was very similar to ‘lack of info’ and a bit more complicated to read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have any comments or concerns you would like to add?</td>
<td></td>
</tr>
</tbody>
</table>

### Appendix J. Reliability Tables

#### Item Statistics

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>What source do you trust most for health care information?</td>
<td>.60</td>
<td>.507</td>
<td>15</td>
</tr>
<tr>
<td>Maintaining good health is important to me</td>
<td>4.13</td>
<td>.743</td>
<td>15</td>
</tr>
<tr>
<td>I feel it is important to carry out activities which will improve my health</td>
<td>4.07</td>
<td>.704</td>
<td>15</td>
</tr>
<tr>
<td>If I sustained an unintentional injury my whole life would change</td>
<td>3.60</td>
<td>.986</td>
<td>15</td>
</tr>
</tbody>
</table>

#### Inter-Item Correlation Matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Trust</th>
<th>GoodHealth</th>
<th>Active</th>
<th>ChangeLife</th>
</tr>
</thead>
<tbody>
<tr>
<td>What source do you trust most for health care information?</td>
<td>1.000</td>
<td>.152</td>
<td>.280</td>
<td>.372</td>
</tr>
<tr>
<td>Maintaining good health is important to me</td>
<td>.152</td>
<td>1.000</td>
<td>.938</td>
<td>.176</td>
</tr>
<tr>
<td>I feel it is important to carry out activities which will improve my health</td>
<td>.280</td>
<td>.938</td>
<td>1.000</td>
<td>.247</td>
</tr>
<tr>
<td>If I sustained an unintentional injury my whole life would change</td>
<td>.372</td>
<td>.176</td>
<td>.247</td>
<td>1.000</td>
</tr>
</tbody>
</table>

#### Item-Total Statistics

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Squared Multiple Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>What source do you trust most for health care information?</td>
<td>11.80</td>
<td>3.600</td>
<td>.356</td>
<td>.250</td>
<td>.659</td>
</tr>
<tr>
<td>Maintaining good health is important to me</td>
<td>8.27</td>
<td>2.638</td>
<td>.560</td>
<td>.893</td>
<td>.520</td>
</tr>
<tr>
<td>I feel it is important to carry out activities which will improve my health</td>
<td>8.33</td>
<td>2.524</td>
<td>.681</td>
<td>.900</td>
<td>.442</td>
</tr>
<tr>
<td>If I sustained an unintentional injury my whole life would change</td>
<td>8.80</td>
<td>2.600</td>
<td>.306</td>
<td>.164</td>
<td>.747</td>
</tr>
</tbody>
</table>

#### Item Statistics

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>I take precautions to avoid unintentional injury in my daily life</td>
<td>3.87</td>
<td>.640</td>
<td>15</td>
</tr>
<tr>
<td>I am comfortable wearing protective equipment</td>
<td>4.20</td>
<td>.676</td>
<td>15</td>
</tr>
<tr>
<td>I know what things I can do to minimize my risk of unintentional injury on a daily basis</td>
<td>4.27</td>
<td>.594</td>
<td>15</td>
</tr>
<tr>
<td>I am able to identify behaviours that increase my risk of traumatic injury</td>
<td>4.53</td>
<td>.516</td>
<td>15</td>
</tr>
</tbody>
</table>
I feel I am more likely than the average person to suffer an unintentional injury | 2.13 | .640 | 15 |

**Inter-Item Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>Precautions</th>
<th>WearingGearR</th>
<th>MinimizeRiskR</th>
<th>IDBehavioursR</th>
<th>AtRiskC</th>
</tr>
</thead>
<tbody>
<tr>
<td>I take precautions to avoid</td>
<td>1.000</td>
<td>.231</td>
<td>.476</td>
<td>.447</td>
<td>.221</td>
</tr>
<tr>
<td>unintentional injury in my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daily life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am comfortable wearing</td>
<td>.231</td>
<td>1.000</td>
<td>.392</td>
<td>.082</td>
<td>.429</td>
</tr>
<tr>
<td>protective equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know what things I can do</td>
<td>.476</td>
<td>.392</td>
<td>1.000</td>
<td>.435</td>
<td>.088</td>
</tr>
<tr>
<td>to minimize my risk of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unintentional injury on a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daily basis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to identify</td>
<td>.447</td>
<td>.082</td>
<td>.435</td>
<td>1.000</td>
<td>.418</td>
</tr>
<tr>
<td>behaviours that increase my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>risk of traumatic injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am more likely than</td>
<td>.221</td>
<td>.429</td>
<td>.088</td>
<td>.418</td>
<td>1.000</td>
</tr>
<tr>
<td>the average person to suffer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>an unintentional injury</td>
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</tbody>
</table>

**Item-Total Statistics**

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<th>Squared Multiple Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>I take precautions to avoid</td>
<td>15.13</td>
<td>2.838</td>
<td>.481</td>
<td>.305</td>
<td>.635</td>
</tr>
<tr>
<td>unintentional injury in my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daily life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am comfortable wearing</td>
<td>14.80</td>
<td>2.886</td>
<td>.410</td>
<td>.398</td>
<td>.669</td>
</tr>
<tr>
<td>protective equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know what things I can do</td>
<td>14.73</td>
<td>2.924</td>
<td>.497</td>
<td>.451</td>
<td>.630</td>
</tr>
<tr>
<td>to minimize my risk of</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
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<td>unintentional injury on a</td>
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</tr>
<tr>
<td>I am able to identify</td>
<td>14.47</td>
<td>3.124</td>
<td>.490</td>
<td>.453</td>
<td>.638</td>
</tr>
<tr>
<td>behaviours that increase my</td>
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<td></td>
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<tr>
<td>risk of traumatic injury</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I am more likely than</td>
<td>16.87</td>
<td>2.981</td>
<td>.405</td>
<td>.414</td>
<td>.669</td>
</tr>
<tr>
<td>the average person to suffer</td>
<td></td>
<td></td>
<td></td>
<td></td>
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